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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/662,363

09/16/2003

Akira Kuriyama

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5514 7590 02/05/2007  
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EXAMINER

JOHNSON, EDWARD M

ART UNIT

PAPER NUMBER

1754

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/05/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/662,363

Applicant(s)

KURIYAMA ET AL.

Examiner

Edward M. Johnson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11, 13 and 14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13 and 14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-11 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fochtman et al. US 4,402,836 in view of Lynch US 4,196,140.

Regarding claims 1 and 14, Fochtman '836 discloses a method for treating pollutants comprising an ultraviolet induced chlorination treatment of wastewater (abstract) wherein the wastewater is irradiated and chlorine is flowed through the wastewater and the pH is adjusted (see claim 1).

Fochtman fails to disclose generating the chlorine from solution.

Lynch discloses generating chlorine from an aqueous stream.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the chlorine generation of Lynch in the method for treatment of contaminated

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waste water of Fochtman because Lynch discloses the chlorine generation in a method for treatment and recovery of waste water (title), which provides a low energy process for treating recoverable chlorine from waste streams, minimizing the raw material usage, which would motivate an ordinarily skilled artisan to generate chlorine in the Fochtman method to minimize the raw material chlorine used therein, as disclosed.

Lynch fails to disclose flowing the chlorine from the reactor, back to the cell.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to flow chlorine from a vent out of the reactor to be held and reused in a cell because Fochtman discloses  $\text{Cl}_2$  coming from a vent (see Fig. 3, element 52), which would at least suggest reusing the  $\text{Cl}_2$  from the disclosed prior art vent in Fig. 3 to save cost, which would be within the purview of an ordinarily skilled artisan.

Regarding claims 2-3 and 7-8, Fochtman discloses treatment of wastewater returned to a pond, introducing chlorine gas (claims 1-2) and nitrogen stripping (see column 3, lines 20-24).

Regarding claims 4-5, Lynch discloses an aqueous stream containing recoverable chlorine and useable in an electrolytic cell and treatment with  $\text{HCl}$  (abstract).

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Regarding claim 6, Fochtman discloses ultraviolet irradiation (abstract).

Regarding claim 9, Lynch discloses organochlorine compounds (see columns 6-7).

Regarding claim 10, Fochtman discloses addition of NaOH (see column 8, lines 19-22).

Regarding claim 11, Lynch discloses hypochlorite solution (abstract).

Regarding claim 13, Fochtman discloses Cl<sub>2</sub> coming from a vent (see Fig. 3, element 52), which would at least suggest reusing the Cl<sub>2</sub> from the disclosed prior art vent in Fig. 3 to save cost, which would be within the purview of an ordinarily skilled artisan.

#### ***Double Patenting***

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

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A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-12 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 7,018,514. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would have been obvious to one of ordinary skill in the art at the time the invention was made to generate the claimed chlorine gas with a generating step because the '514 patent claims contacting and desorbing a chlorine containing gas, which would motivate the ordinary artisan to generate and use a source of chlorine to perform the claimed contacting and desorbing. It would also have been obvious to flow chlorine back to the reaction container to save the cost of using new chlorine, which would have been within the purview of an ordinarily skilled artisan.

5. Claims 1-12 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-49 of U.S. Patent No. 6,538,170. Although the

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conflicting claims are not identical, they are not patentably distinct from each other because it would have been obvious to one of ordinary skill in the art at the time the invention was made to generate the claimed chlorine gas with a generating step because the '170 patent claims generating functional water and introducing air (claim 9), which would motivate the ordinary artisan to generate and use a source of chlorine to perform the claimed contacting and desorbing. It would also have been obvious to flow chlorine back to the reaction container to save the cost of using new chlorine, which would have been within the purview of an ordinarily skilled artisan.

***Response to Arguments***

6. Applicant's arguments filed 11/29/06 have been fully considered but they are not persuasive.

It is argued that Fochtman is directed to a method for treating.. treatment of wastewater. This is not persuasive because Lynch discloses generating chlorine from an aqueous stream. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

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It is argued that applicants respectfully submit that even if Lynch... claimed invention unpatentable. This is not persuasive because it would have been obvious to one of ordinary skill in the art at the time the invention was made to flow chlorine from a vent out of the reactor to be held and reused in a cell because Fochtman discloses  $\text{Cl}_2$  coming from a vent (see Fig. 3, element 52), which would at least suggest reusing the  $\text{Cl}_2$  from the disclosed prior art vent in Fig. 3 to save cost, which would be within the purview of an ordinarily skilled artisan.

It is argued that also, Lynch does not disclose separating the container... irradiation takes place. This is not persuasive because Fochtman discloses a separate UV well within the reaction container (see Fig. 2). One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

It is argued that applicants respectfully submit that neither of these patents... as presently claimed. This is not persuasive because it would also have been obvious to flow chlorine back to the reaction container to save the cost of using new chlorine, which would have been within the purview of an ordinarily skilled artisan.



**Conclusion**

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward M. Johnson whose telephone number is 571-272-1352. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley S. Silverman,

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can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Edward M. Johnson  
Primary Examiner  
Art Unit 1754

EMJ